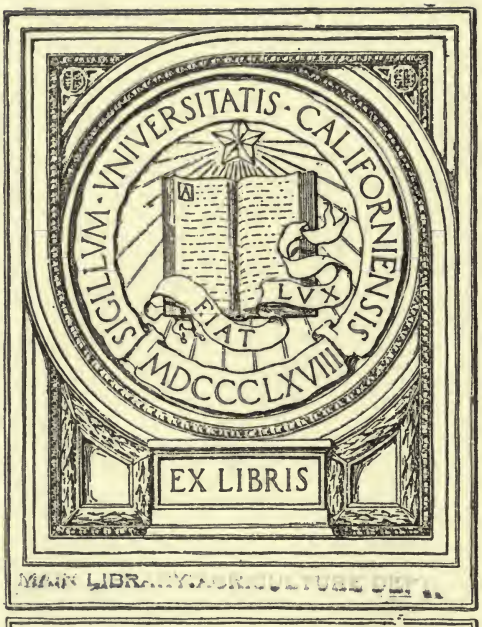
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1918.

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PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF AGRICULTURE

(LIVE STOCK BRANCH)

MANAGEMENT OF MARKET RABBITS

AND DIRECTORY OF BREEDERS

BULLETIN No. 80

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PROVINCE OF BRITISH COLUMBIA.

DEPARTMENT OF AGRICULTURE (LIVE STOCK BRANCH).

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Secretary to the Department.

* Granted leave of absence for overseas service.

MANAGEMENT OF MARKET RABBITS.

By J. R. Terry, Chief Poultry Instructor.

IT has been proved that the production of rabbits for the table, when properly managed, can be made one of the most profitable branches of small-stock farming. The industry in this Province is in its infancy, and during the past two or three years has made rapid growth. There is a large and ever-increasing demand springing up for rabbit-meat, and owing to the enhanced prices charged for all forms of meat this is likely to continue. The presence of a large population here of Old Country birth helps to popularize the consumption of rabbit-flesh. In European countries, particularly the northern portions, millions of rabbits are annually produced (mainly by owners of small farms). Great Britain alone imported during 1915 no less than 603,659 cwt. of fresh and frozen rabbits. Besides this, British rabbit-breeders annually rear in excess of 30,000,000 rabbits for the table. Rabbit-flesh is classed with fowls and fish for invalids in hospitals and sanataria, being specially recommended for "gassed" wounded soldiers.

Rabbit-skins, especially of the White varieties, such as Angora and Himilayan, and also the Black Siberian, command fairly good prices at the present time. The writer has been informed that rabbit-skins have been put to a variety of uses by our soldiers in France during the winter months. Rabbit-skin insoles for boots are greatly in demand.

SUITABLE BREEDS.

The most profitable breeds for table purposes are the Flemish Giant, Belgian Hare, and New Zealand Red. For fur and table purposes, the Black Siberian Hare, Albinos, the Angora, and English Silver Grey are best. The latter two breeds, however, are much smaller in size, longer in reaching maturity, and less hardy.

A utility Flemish Giant doe.

The Flemish Giant, Belgian Hare, and New Zealand Red breeds are the largest of the rabbit family, all combining quick maturity with prolificacy.

The Flemish Giants, as will be seen by the following standard, is the largest breed. The standard is that in use by the American Fur Fanciers' Association, and whilst, for market purposes, not much attention need be given to exact colouring of fur, the remainder of the standard conforms to good sound utility requirements.

STANDARD OF POINTS.

Steel Grey.

Size and Weight.—Bucks shall not be less than 11 lb., and does not less than 13 lb.; size shall be considered irrespective of weight 30

Colour.—Dark steel grey, with even or wavy ticking over the whole body, head, ears, chest, and feet alike, except belly and under tail, which shall be white. Any grey, steel, sandy, or other shade on belly or under tail, except a streak of grey in each groin, shall be penalized according to quality of competing specimens 20

Body.—Large, roomy, squarely and heavily built; broad fore and hind quarters. Does shall have a dewlap, evenly carried 15

Legs and Feet.—Shall be strong in bone, large, and straight 15

Head and Ears.—Head shall be large, full, and shapely; eye bold and dark brown in colour; ears erect and moderately thick....10

Condition.—Full short coat, firm in flesh, and free from cold.....10

Pedigreed Belgian Hare doe, "Annie Laurie," and litter. This was a famous Vancouver Island doe about five years ago. Her blood lines still exist in some of the best stock now in the Province.

Any other Self-colour.

Same points as Steel Grey, except as to colour, which may be any solid colour.

The standard for Belgian Hares, set by the American Fur Fanciers' Association, is as follows:—

STANDARD OF POINTS.

Colour.—Rich rufus red (not dark smudgy colour), carried well down sides and hind-quarters and as little white under jaws as possible 20

Shape.—Body long, thin, well-tucked-up flank, and well ribbed up; back slightly arched; loins well rounded, not choppy; head rather lengthy; muscular chest; tail straight, not screwed (either temporarily or permanently), and altogether a racy appearance 20

Ticking.—Wavy in appearance and plentiful 10

Ears.—About 5 inches long, thin, well laced on tips, and as far down outside edges as possible, good colour inside and outside and well set on 10
Eyes.—Hazel, colour, large, round, bright, and bold 10
Legs and Feet.—Fore feet and legs long, straight, slender, well-coloured, and free from white bars; hind feet well coloured...10
Without Dewlap 10
Size and Weight.—About 8 lb. 5
Condition.—Healthy, not fat, but flesh firm like a racehorse, and a good quality of fur 5

Pedigreed New Zealand Reds. Doe and young stock.

The standard for New Zealand Red, as set by the National New Zealand Red Club, is as follows:—

STANDARD OF POINTS.

Colour.—Even reddish buff, carried well down sides, with whitish under body 30
Weight and Shape 30
Head.—Medium and shapely, with large, bright hazel eyes.
Ears.—Erectly carried, medium thick, 5½ inches long, free from ticking. Head and ears to match the body colour 15
Legs.—Medium heavy-boned; front feet solid reddish buff; hind feet as red as possible 15
Condition.—Firm in flesh and close-coated 10
Official Weight.—Four and a half lb. at three months; 6 lb. at five months; 8 lb. at eight months; 9 lb. at ten months; 10 lb. at twelve months.

The Black Siberian Hare, whilst supposed to be a distinct breed, has many of the characteristics of the Black Flemish Giants. When breeding the latter, one is not surprised to get a percentage of offspring showing silver- or steel-grey ticking. With true Siberian Blacks, however, one does not expect this. It has been known to happen, especially since the boom in Blacks.

The Albinos are sometimes of pure Belgian origin; sometimes the result of a cross between Belgian and Flemish, and yet again are oftentimes able to claim a pure-bred rabbit as sire or dam, and the other parent may be just a cross-bred animal. When bred to a good size, the fur should command a much higher price than either the skin of the Belgian, Flemish, or New Zealand.

Albino doe, "Wildwood Lily." This doe littered one week before photo was taken. In shape and type she resembles the Flemish Giant.

SELECTION OF STOCK.

When purchasing stock, it is desirable, if possible, to visit the rabbitry before buying. One can then make a better selection than would be possible by correspondence with breeders at a distance. Whilst the weight requirements for Flemish Giants are given in the standard as not less than 11 lb. for bucks and not less than 13 lb. for does, it has been found that does from 9 to 12 lb. are equally profitable. Handle carefully all rabbits one intends to buy. Pass the hand over the back and feel for unnatural swellings of any kind. Look well into the ears and eyes, and make sure there is no discharge from the nostrils. Examine the fore and hind feet for soreness, and also inspect for sexual inflammation. The above precautions are given because quite often one may purchase from a beginner who may know less than oneself regarding these matters.

It is advisable to inquire as to system of feeding, ration fed, and method of housing, so as not to make too big a change when starting.

The beginner should start in a small way, thus learning the business at less risk and cost. Purchase of three or four does and one unrelated buck will give a good start. Both sexes should be purchased from stock of vigorous constitution and prolific in breeding.

HOUSING.

Quite a few systems are used for housing rabbits, and each has its champions. Probably there are more rabbits kept in individual, stationary hutches than in any other quarters. The reason for this is mainly a matter of economy with the average breeder. Hutches that have proved very serviceable have been made by utilizing

packing-cases of every size and shape. The other systems of housing are the battery, either with or without shed shelter, the movable or colony hutch, and the pen method.

With the hutch system the main essentials are well-lighted, clean, draught- and rain-proof hutches of sufficient height, length, and width, easy to clean, and, lastly, vermin-proof. Rabbits kept in undersized hutches are much harder to keep in condition than those housed more favourably. The dimensions recommended are: Length, from 5 to 6 feet; height, 2 feet; width, 2 feet. After allowing for space occupied by the nest there is still room for the rabbits to exercise.

The battery, or tier, system is highly recommended by those using them. It is labour-saving, takes up little room, and is economical to build. They can be placed in a shed or outdoors. An illustration of this type is given below.

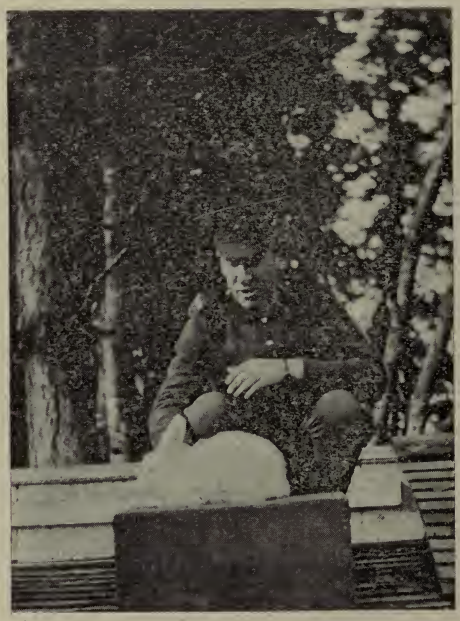
A battery of hutches. Each story is removable, as shown in photo. Nests are at each end and there is a partition through centre.

The movable hutch for both breeding does and for young growing stock, is to be recommended where one has a sufficient area of land to allow of constant removal of the hutch. This hutch has a wire run attached, and therefore permits of the rabbits getting more exercise than when housed in stationary quarters. This system cannot be operated all the year round, except in those sections where there is little frost or snowfall.

The pen method is, in the writer's opinion, all things considered, the best system of housing. A disused wood-shed, outhouse, or fowl-house can be utilized for this purpose. The stock are housed in medium-sized hutches placed around the walls of shed, and each rabbit allowed out on the floor of the shed for exercise at stated intervals. The floor needs to be littered and kept reasonably clean. Where the animals are housed on the floor-level, means must be taken to prevent the loose one fighting through hutch-wire.

The hutches should be cleaned regularly and thoroughly. The common diseases of rabbits are practically all due to lack of cleanliness and sanitation.

Some breeders use sawdust for litter, others straw or hay, whilst others supply earth, and some no litter whatever, except for nesting material. Whatever material for litter is used, the same should be frequently removed and the floor of hutch or pen occasionally swept and disinfected. The writer, when a boy, always tarred the hutch floors. This made them water-tight, a desideratum where hutches are placed in tiers. Hutches ought to be whitewashed at least once yearly. A good wash can be made by slaking lime with a small quantity of water, and then adding sufficient skim-milk if obtainable. A small quantity of some good disinfectant can be added, and the whole applied whilst hot, if possible.



Angora buck and owner, a "gassed" soldier. In some sections the Angoras are sheared similar to sheep. The fur is utilized for packing cushions, etc.

With reference to location of hutches, it may be stated that where they are left outside all winter they should face south. This aspect is not the most favourable in summer, however. An eastern or north front will prove of more service and comfort to the stock in summer.

Feed-troughs and drinking-vessels should be of earthenware or concrete, as wooden troughs are apt to get chewed up by the rabbits. To offset this, however, small sticks, preferably of fruit-trees, may be given occasionally. Most rabbits appear to derive satisfaction in "barking" them.

FEEDING.

Greenstuff, fresh and succulent, and in as great variety as possible, should constitute the main diet of rabbits, and upon the quantity thereof available and its cost will depend entirely the profit to be derived from table rabbits. When all the greenstuff required—grass, leaves, roots, etc.—can be produced at home, or obtained cheaply in sufficient quantity, rabbit-rearing for the table should pay well. In the reverse case, the returns will be less satisfactory, if an actual loss is not incurred. Nevertheless, however cheap and plentiful, green food—as any other food—must be given to the stock with judgment if the best results are aimed at. The feeding should take place at regular hours, and the quantity given must be just that

amount which each rabbit will clean up entirely before the next meal is served. If less food is given than will satisfy their appetites, the rabbits will not thrive as well as would otherwise be the case. If more is given them, the surplus will be pulled about, trodden on, and soiled. This involves a waste of food which would otherwise be available for the maintenance of additional stock, and at the same time tends to render the hutches dirty and insanitary. The exact quantity of food required will vary with each rabbit, but it will soon be seen what amount is necessary without leaving any room for waste.

Adult rabbits require only two good meals a day; one as early in the morning as possible, the other at night; but, if the time can be spared, the same amount of food may be distributed in three helpings a day, with beneficial results, as it will be less liable to be soiled and wasted. Three meals, however, are a necessity in the case of does which are rearing litters, and young animals intended for the table.

In the case of rabbits kept in colony hutches, the feeding, for the main part, consists of moving the hutches to fresh grass whenever required, but not less than once daily, unless the weather is such as to render this course undesirable. During wet weather, for instance, it will be better not to move the hutches, but to supply their inmates with leaves or cut grass or with hay and roots. Rabbits in stationary hutches must naturally be served with green food by hand at all times, and the meals may consist of cut grass, lettuce-leaves, chicory, kale, rape, turnip-tops, or whatever other vegetable is in season or available. The leaves of carrots, beet, mangels, and other such roots are all relished by rabbits, while dandelion-leaves, sow-thistles, and a host of other such weeds are all useful. All green food should be given dry, because wet or frosted food will injuriously affect the bowels of rabbits. For this reason all green food should be gathered before sunset or before the dew falls.

In winter, when grass and leaves are scarce, roots may, if necessary, be exclusively made use of, and for this purpose carrots, turnips, parsnips, beet, potatoes, etc., are available. Swedes and mangels are also most useful, and greatly enjoyed; but these should not be given to rabbits, any more than to other stock, until after Christmas, by which time most of their acids will have been converted into sugar.

Any leaves and weeds of which there may be a surplus in the summer may be sun-dried and preserved for winter use, to eke out the roots and hay. Sweet, dry hay of all kinds may be freely used when green food is scarce, and should always be given in small quantities at night, particularly in winter, when the last feed of the day is necessarily given considerably earlier than would be the case in summer, with its longer days. Hay ought to be placed in a small hay-rack provided for the purpose, as a large proportion will otherwise be inevitably soiled and wasted.

Grain of sorts may also be given in cold weather and at all times to growing youngsters intended for stock purposes and does with litters. A large tablespoonful per day will be an ample allowance for each animal, and should be given in a trough of stoneware or tin, with edges so arranged that the food cannot be scratched out and wasted by the rabbits. Oats are, perhaps, the best staple grain food for rabbits. Wheat is also good, while barley and corn are useful if given in moderation, and only by way of change. They are too heating for regular use. Barley-meal and corn-meal possess the same objections as the grain from which they are derived, and must therefore be used in moderation. Bran is safe and very useful for growing stock and does in or with young, being bone-forming and milk-producing. It may be given either dry or in a slightly moistened condition. Some breeders keep a dry mash of bran or oatmeal continually before their stock. Does may be given a warm bran-mash daily from two days before the date of kindling to a week or so after. A bran-mash should be prepared by pouring boiling water upon the bran sufficiently to moisten it, when stirred up, without rendering it sloppy. It should then be permitted to stand until moderately warm before being served out. Growing stock may be given a bran-mash once or twice weekly; it will help to form their bones, and at the same time tend to keep the bowels in proper condition. Either

water or milk may be used for moistening the meals. This kind of food should also always be given to the rabbits in troughs, and these kept scrupulously clean; more especially during the summer months, as moist food is very liable to turn sour if left even for a few hours. Three or four tablespoonfuls will be about the right amount to give to each rabbit.

Water should always be before rabbits, for, although they are able to live without it, they will thrive better with it. Bowel-troubles will to a great extent be avoided, while many a young litter will be saved. When does devour their young the cause may be frequently traced to the absence of water. Milk, either skimmed or whole, may, if available, be given instead of water, and will prove advantageous, particularly in the case of does with young or of fattening youngsters. A small piece of rock salt in the hutch is also beneficial, as it will tend to keep the stock in good health by acting as a preventive of many minor ills, and the rabbits appreciate an occasional lick of salt. Rabbits greatly enjoy a feed of hawthorn, poplar, maple, and most fruit-tree leaves. A branch should be placed in the hutch occasionally.

BREEDING.

Young or immature rabbits should not be bred from. Those that are not less than seven months old, sturdy and vigorous, are more likely to become parents of strong, healthy offspring. The concensus of opinion regarding limit of age for breeding purposes is that after four years of age the stock cannot ordinarily be depended on to produce large and lusty litters.

The average doe should not be expected to produce more than four litters yearly. She should be given a rest during the winter months if possible. Where, however, the climate is mild and the breeder has proper equipment for the successful rearing of winter rabbits, an additional litter per doe may be arranged for. The first mating should be made some time during February and the does rebred when the young are about five weeks old.

The exact time for mating is when the doe evinces restlessness and stamping of feet. It is the general practice to place the doe in the buck's hutch, leaving her there for about twenty minutes, unless the doe exhibits signs of fighting, when she should be at once removed for a time. Some breeders often try another buck instead of waiting.

The period of gestation is thirty days, and from three to ten young may be produced in a litter. Sometimes more than ten young are born. This number is generally too great, however, for the doe to feed, and it may be found necessary to kill off the weakest if they cannot be given to another doe to rear.

After being bred the doe should be disturbed as little as possible, and particular care should be taken to see that she is not scared or annoyed by children, dogs, cats, rats, or mice.

A plentiful supply of clean hay should be provided towards kindling-time to enable her to make her nest, which she will line with fur plucked from herself.

Does in young do better if given plenty of hutch-room. If nesting compartments are not provided, a nesting-box should be placed in the hutch about ten days ahead. An empty fruit or butter box will do excellently. The box needs to be about a foot and a half long, a foot deep, and about a foot wide. Remove the lid and cut a hole large enough for the doe to enter in the top end of one of the sides. Turn upside down and place in one of the corners. The box will also do for the doe to rest on top, so as not to be continually worried by the young a few weeks later on. Do not disturb the nest after the young are born. Cannibalism often results if the doe or young are disturbed at this time. The young will begin to leave the nest soon after they are two weeks old as a rule. As soon as this happens, the nests should be cleaned out and fresh material placed therein. A little air-slaked lime may be sprinkled on the floor of the nest before putting in straw or hay.

During gestation the doe needs to be fed an additional meal daily. This can be given at noon. Bread and sweet milk, given in a clean china or earthenware

dish, will be relished. Clean drinking-water should be supplied regularly. Some breeders do not give water at any time. The consensus of opinion seems to be in favour of supplying drinking-water, however. Green food should be given regularly, and any left over should always be removed. The grain portion of the diet may be either oats or barley, whole or crushed. Some American breeders give small quantities of cracked corn during the cooler portions of the year.

It will be noticed that the young will soon begin nibbling the food given the mother, and everything should be done to encourage this. The young, especially if numerous, prove a heavy drain on the doe, and she should be given a drink of sweet milk daily, in addition to her usual ration. The greenstuff fed needs to be young, tender, and dry. The food eaten, in addition to the mother's milk, tends to prevent the set-back or check so often experienced by the young stock when first removed from the doe at weaning-time.

WEANING AND FATTENING.

When removing the young it is advisable to take away half of the litter—the biggest ones first—a day or two ahead. Any likely looking ones—bucks or does—should be separated at this time if to be kept for breeding purposes. It is not advisable to select them after they have been in the fattening-pens. They should not be forced in any way, but allowed to mature naturally, and be given a fair amount of exercise.

As a general rule, weaning is best done when the young are six weeks old, when they may be safely parted from their mother and placed in the fattening-pens. If the mother is not in kindle they may advantageously be left with her a week longer, as there can be no doubt that the mother's milk is of the greatest benefit in promoting growth.

Whatever method of housing may have been adopted for the breeding stock, young rabbits intended for the table will be found to do best when kept loose in a shed or other such building after being weaned. They also fatten more quickly in confinement than when running loose, and should not, therefore, be provided with too roomy quarters.

A further advantage, when such accommodation is available, is that the housing is very much cheaper and a great deal less room is occupied than if the rabbits are kept in ordinary hutches, even though half a dozen are placed in each. The feeding is also considerably simplified and occupies much less time, because a batch of 50 or 100 is fed almost as quickly as one of six. It is merely a question of the quantity of food to be supplied. Naturally, sufficient trough-space must be provided to permit practically all the rabbits to feed at the same time, and so prevent them from fighting over their food. Otherwise the strongest will crowd the weaker out, and, while no evil would result from the former receiving rather more than a fair share of the food provided, the smaller or weaker rabbits would suffer. The shed, or whatever other building is made use of, must, of course, be perfectly dry and its floor well littered with straw or other bedding materials, of which a little may be added daily to replace that which is eaten by the rabbits or otherwise destroyed. When necessary—that is, about once a week, when the shed is fully tenanted—the whole floor must be thoroughly swept out and cleaned and new bedding provided. Periodical limewashing is also necessary. Overcrowding must, of course, be guarded against. As a general rule it may be taken that each rabbit should be allowed 1½ square feet of floor-space.

The sexes should in all cases be separated, although this is not, perhaps, essential during the winter months. On the other hand, rabbits of all ages, but of the same sex, may be run together up to killing-time if accommodation is limited.

As soon as weaned every effort should be made to help on the young rabbits as rapidly as possible. Every scrap of food eaten from this time to their twelfth or fourteenth week means additional profit to the rearer, as it will all tend to rapidly increase the size of the rabbits. After that age growth is slower, and a

great amount of the food consumed is utilized to replace waste of tissue. It is not, however, merely quantity which promotes the growth of the rabbit. Small quantities of the right kind of food have a greater effect upon size and condition than large quantities of the wrong. They must be liberally supplied with fresh greenstuff, but, in addition, they must be provided with foods calculated first to promote growth, and then to make them lay on flesh and fat in as short a space of time as possible upon the framework so built up. They should be more liberally provided with ground meals than stock rabbits, and if skim-milk or other milk is available it should invariably be used for mixing the meals in preference to water. The meals should be moistened sufficiently to make them crumbly. Sloppy food is not relished, and, what is worse, will tend to scour them. Moist food rapidly turns sour if allowed to stand, and the youngsters must therefore only be given sufficient to clear up at one meal. Should any food be left over it should be immediately removed and given to other animals before it has had time to deteriorate.

From six to eight weeks the rabbits may be fed four times daily, one at least of the meals to be of greenstuffs. From eight to twelve or fourteen weeks of age three meals a day will suffice. The greens may be fed at noon.

In mixing and feeding any of the following mashes for fattening purposes, skim or butter milk is vastly preferable to water for moistening purposes. Where milk is unobtainable a small quantity of linseed-meal or cocoanut-meal should be added to the ground grain. Use about 5 per cent. of these concentrates at the start, and then gradually increase to 15 per cent. if acceptable to stock. When using cocoanut-meal be sure that it is fresh. With age it quickly becomes rancid, unless kept in cake form, and ground when needed.

Equal parts by weight of bran or shorts and barley-meal; bran or shorts and ground oats; rice-meal and barley-meal; rice-meal and oatmeal.

Where white flesh is desired, corn-meal should not be used, except in very small quantities. The feeding of red carrots, beets, or yellow mangels will also tinge the flesh yellow.

Should the rabbits show signs of "stalling," one meal should be omitted. They will generally come up to the trough eager enough at the next. Watch should be kept of the stock, so that any forward ones may be culled out and marketed as soon as ready.

KILLING, DRESSING, AND MARKETING.

A live rabbit, properly fed and brought to a plump condition, will, when killed and dressed, lose about one-third its weight as offal, under which may be included the paunch and the skin. It will therefore be seen that a rabbit killed when weighing 4½ lb. will, when dressed, leave 3 lb. of saleable flesh, and a 6-lb. rabbit about 4 lb. The rule, however, applies only to properly fattened animals, because a rabbit which is lean has, in proportion to its size, as many entrails and as much skin as one which has been brought to proper killing condition, and may, when dressed, lose as much as one-half its weight. The importance of bringing a young rabbit to a killing-weight as rapidly as possible is therefore obvious, because a rabbit ten to twelve weeks old, properly fattened, will weigh as much skinned and dressed as one which is some weeks older and considerably larger, but which, nevertheless, is in poor condition. At the same time, its flesh will be firmer, more tender, and more appetizing. With good care and correct feeding there should be no difficulty in bringing young rabbits to a proper killing condition within twelve weeks at the most, and they should then be marketed without delay. To keep them longer is, as already pointed out, to reduce profits by increasing the cost of food, without any corresponding increase in the value of the rabbits, unless, of course, they are to be kept or sold for stock purposes.

One of the most humane ways of killing a rabbit is to hold the animal by the hind legs with the left hand, and to dislocate the neck with the right in exactly the same way as fowls are sometimes killed. To do this place the fingers of the right hand under the lower jaw of the rabbit and the thumb between the roots of the

ears. Then stretch out the rabbit and with force, at the same time bending back the head. Done expeditiously and properly, the animal will be dead instantaneously and with a minimum of suffering. Another method of killing is to hang the rabbit by the hind legs from the left hand, and to give a smart blow behind the ears with the right, either with the edge of the hand itself or with a short, stout stick; the last named is the better and least tiring way when a number of rabbits have to be killed. As by either of these methods of killing a certain amount of clotted blood is collected in the neck of the rabbit, which to some extent spoils the appearance of a skinned rabbit, rabbits when killed are frequently bled, more particularly if they are to be marketed skinned. For this purpose it is usual to first stun the rabbit by a smart tap behind the ears with a suitable stick, for which purpose the animal may be held head downwards, as already described, or merely allowed to rest on the ground, or upon a table or box, while the ears are held a little forward with the

Illustration shows usual method of dressing carcass.

left hand. Done properly, the rabbit will fall over senseless as soon as struck. Without delay it should now be laid on its side upon a box or low table, and the blade of a sharp-pointed "sticking" knife passed through its neck immediately behind the ears, in such a way that the blade passes right through from one side to the other. Blood will immediately flow freely, and the rabbit should be held over a bucket, head down, until the bleeding has ceased. This method of killing is a little troublesome, and certainly somewhat unpleasant, although doubtless as merciful to the animal as any other method. As the only benefit gained is in the appearance of a skinned carcass, it can, however, only be recommended for rabbits so marketed. Table rabbits sold with the skin on are rather spoiled in appearance than otherwise, as the necks and heads of the carcasses are always more or less stained with blood. As it is sometimes urged in favour of bleeding that when a number of rabbits are killed the blood is useful for pigs or poultry, it may be

pointed out that the blood of an unbled rabbit proves equally profitable by adding to the weight of the carcass.

Rabbits are best killed in the evening preceding the day on which they are to be marketed, and as soon as dead or at least while still warm, should be paunched This is done by making a slit, from 4 to 5 inches long, lengthwise through the belly with a sharp-pointed knife, starting at about the centre of the carcass and cutting towards the tail. It is necessary to take the greatest care not to cut so deep as to pierce the entrails. Then hold the rabbit by its head, which will let the "paunch" sink down towards the tail; insert the hand and draw out the intestines, which may be thrown into the hog-feed in their entirety and made profitable by reducing the cost of the hog's keep. The kidneys, heart, liver, and lungs must be left in the carcass, but beyond these everything must be removed. The rabbits should now be hung up by their hind legs to cool, and will be ready for packing as soon as quite cold and rigid, and will then keep better than if packed while still warm.

Rabbits may be packed for transit to market in two ways. They may be either laid in layers in boxes of suitable size, with a layer of clean paper between each layer of rabbits, or they may be hung in boxes or hampers English fashion. For the last named a supply of sticks of the right length—that is, just long enough to go across the packing-case—are necessary. Then slit one of the hind legs of each rabbit between the tendon and the bone and pass the other leg through the hole. To prevent this leg from slipping out again its tendon should be cut through. Now pass the stick between the legs, fill up each stick with rabbits, and fix both ends in the box or hamper. So packed, the rabbits retain their shape better than when pressed in layers, and have an altogether better and fresher appearance when unpacked. It should be clearly borne in mind that with rabbits, as with all other kinds of produce, proper packing and grading has a great influence upon the prices realized; besides which, properly packed carcasses suffer less in appearance during transit, and, as a rule, therefore keep better and longer.

If the boxes or cases in which the rabbits are sent away are at all heavy, it will be advantageous to provide them with a pair of handles, not only for convenience in carrying, but also because such packages are apt to receive less rough treatment at the hands of express companies. Short pieces of ½- or ¾-inch rope (the last named by choice) make excellent handles and are easily fixed. All that is necessary is to bore a couple of holes at each end of the box, to pass the rope through, and then knot the ends securely inside the box. The above-described method of preparation and packing for marketing is the most usual, and that which is most suited for the majority of the large centres of population, where, of course. the largest demand for rabbits exists. The breeder must, however, be guided entirely by circumstances, and if his nearest or most profitable market requires different treatment or preparation he must act accordingly. There are places in which the custom is to sell the rabbits alive; others in which the rabbits, though killed, are sold unpaunched. If they are marketed alive they must be packed in suitable crates, care being taken not to overcrowd, as this entails suffering, and also impairs the appearance of the rabbits. If the rabbits are required unpaunched. there should be no delay in sending them away, as they do not keep as well as those which have had the intestines removed.

The operation of skinning is a very simple and expeditious one when the knack has once been acquired, and should not occupy more than two or three minutes at the outside. It is perhaps best learned by seeing it done by a skilled person. The rabbit should be laid flat upon a table after being paunched, and a start made upon it by separating from the skin the thin layer of flesh (the "flank") which will be found on each side of the incision made in the belly for the purpose of paunching. This will come away quite easily. Now insert the thumb between the flesh and the skin and work it gently towards the back of the rabbit and up to the hind leg. Then take the leg in the hand that is free and push it towards the rabbit, working the skin loose right round it with the thumb, right up to the knee-joint. Now take

the leg between the thumb and the first finger, both inserted between it and the skin; with the thumb and finger of the other hand take the skin, give a sharp pull, and so draw the leg out of its skin, which will break off at the ankle-joint of the leg. Now repeat the operation described to free the other hind leg, and separate the tail from the body with a knife. This done, grip the two hind legs firmly in the left hand, and with the right pull the skin away from the carcass as far as it will go, which will be up to the fore legs, and will come off quite easily with one long, slow pull, after which free these legs in much the same way as was done in the case of the hind legs. Give another pull to the skin, and this will become detached right up to the ears. A slit should now be made with a sharp knife between the tendon and bone of a hind leg, and the other leg passed through it as already described. The rabbit may now be fixed by its hind legs so looped over a strong nail or peg fixed in the table, giving the operator the use of both hands for skinning the head. Take now the skin in the left hand, and, pulling it gently the whole time, cut off the ears close to the head with the right hand; cut round the eyes as the skin is stopped by them, and continue to use the knife on the forehead and elsewhere, as required, until the skin is pulled off entirely.

The carcass is now ready to be dressed and shaped. With this object the toes are chopped off from each of the four legs. The hind legs are left looped as they were while the head was being skinned, while the fore legs are stuck through small slits made between the first and second ribs on either side of the fore-quarters. Finally, the carcass is pressed and flattened out to bring out fully its plumpness and to facilitate packing. For this purpose the rabbits should be laid out side by side in single layers, upon shelves 18 inches wide, with the hind legs against the wall. A shaping-board some 6 inches wide is then laid over them, so as to spread out the thighs, and this weighed down with bricks, stones, or some similar weights. The rabbits should be left upon these shelves for some twelve hours, by which time they will have thoroughly cooled and become rigid. Light must, as far as possible, be excluded, as it tends to discolour the flesh; so also must dust, for which purpose the carcasses should be covered with a cloth if necessary.

For sending to market these rabbits should be closely packed in well-ventilated crates of suitable size. One 2 feet square and of the same depth will hold about fifty carcasses. The crates should be lined with stout white paper, the rabbits packed flat, and a sheet of white parchment paper laid between each layer of rabbits. As it is desirable that the carcasses should be packed as tightly as possible, so as to leave no room for shaking them up, the depths of the crates should be governed by the number of rabbits sent away at each consignment. If a crate cannot be entirely filled, a false lid should be laid over the top layer of rabbits and held down on them in some way.

MARKETING SKINS.

The skins of rabbits sold dressed may be made to yield a small addition to profits. Furriers in this Province, however, do not seem eager to purchase any skins, other than all black, white, silver grey, or blue. In some of the larger towns dress-makers and milliners sometimes purchase a few skins to be used as trimmings. Naturally enough, it is best to collect a fair batch of them before selling, and for this purpose it is necessary to preserve them so as to avoid putrefaction. The most satisfactory plan, where the skins are not too numerous to be so treated, is to stretch and fix them on walls or boards by means of a few nails or tacks, and after scraping off all fat and flesh adhering to them with a blunt knife, to rub them in thoroughly with salt and a little saltpetre on the inside. When thoroughly dry and stiff, which condition they will quickly attain if exposed to the sun or to heat of any other kind, they may be stored for as long as may be desired. If the number of skins to be dealt with is a large one, it is not possible to give them so much attention, much less to find sufficient space for them to be properly stretched. In that case, lines of stout cord or strong wire should be stretched in pairs under a shed or other cover

to exclude rain, and the skins hung over them while fresh, stretching them out with the hands as much as possible. They will take two or three days to dry, according to the temperature of the air, and should then be sent to the skin merchant without delay, packed in sacks.

Curing skins, if carried out properly, is difficult and unremunerative work, unless the skins are cured in quantities, and even then expert treatment is necessary to obtain really good results. If desired, however, a few skins may be cured for home use in the following simple manner, after having been first treated as above described: With a mixture of one teaspoonful of alum and a tablespoonful of salt in a pint of water, wet the skin on the leather side at intervals of a few hours until thoroughly soaked, after which give the skin a good rasping with a blunt knife and dry in the air. Then rub a little fat into it by the fire. The fur may subsequently be cleaned with bran or sawdust rubbed in with the hand.

Another process, rather more troublesome but giving better results, is as follows: After scraping the skin and removing the fatty matter from the inside, soak in warm water for several hours. Next mix equal parts of borax, saltpetre, and sulphate of soda in the proportion of about ½ oz. of each, with sufficient water to make a thin paste; spread this with a brush over the inside of the skin, applying more on the thicker parts than on the thinner; double the skin together, flesh side, and put in a cool place. After standing twenty-four hours, wash the skin clean and apply in the same manner as before a mixture of 1 oz. washing-soda, ½ oz. borax, and 2 oz. hard white soap, melted slowly together without being allowed to boil, fold together, and put away in a warm place for twenty-four hours. After this, dissolve 4 oz. alum, 8 oz. salt, and 2 oz. saleratus in sufficient hot rain-water, and when cool enough not to scald the hands, well rub this into the skin, hang up to dry, and repeat the operation several times till the skin is sufficiently soft. Lastly, smooth the inside with fine sandpaper and pumice-stone.

The writer has had excellent results when using the following method of curing: The skin, after removing pieces of fat, was moistened with a damp cloth dipped in a solution of 1 oz. sulphuric acid to 1 gallon of water, to which add ½ lb. table-salt. After thoroughly dampening the skin side the pelt was folded, flesh side touching, and placed on a shelf for two days. This was done three times at intervals of two days, and the skin then washed in warm water, wrung out, and then stretched and tacked on a board for a few days. After a little "working" the skin was quite soft and pliable.

TREATMENT FOR SICKNESS AND DISEASE.

As with all other classes of live stock, it is desirable that disease amongst rabbits be prevented as much as possible, thus obviating the nearly always profitless attempt at trying to cure sick stock. It cannot be too strongly urged that in the case of utility rabbit-keeping it does not pay to doctor diseased stock. Breeders of this class cannot afford to breed from stock that has been "cured." Sooner or later nature will demand payment.

It behoves breeders lucky enough to possess thoroughly healthy stock to keep up this desirable condition by paying strict attention to quality of feeding-stuffs; not to overfeed; to give sufficient hutch or yard room; regular cleansing of hutch and surroundings; provision of plenty of light, especially sunlight; ventilation. Regular attention to these points means a minimum of disease outbreaks.

Should an infectious disease break out, immediate measures should be taken to prevent same from spreading. If one hasn't the courage to kill and destroy affected animals, they should be immediately isolated, and, if necessary, all hutches and rabbitries thoroughly sprayed with a good disinfectant. Limewashing will also help matters. After handling diseased rabbits, one's hands should be washed with a good disinfectant solution. The writer has found Lifebuoy or carbolic soap excellent for this purpose.

Oftentimes disease has been taken to a healthy rabbitry by does taken for breeding. It is well to subject all stock of this kind to a very rigid examination.

Below is given a list of the most prevalent ailments and diseases attacking rabbits:—

INDIGESTION, "POT-BELLY," FITS, CONSTIPATION, AND DIARRHŒA.

Each of these ailments can be brought on through irregularity of feeding; poor quality feeds; excess of greenstuffs, wet or stale; lack of variety and exercise; overfeeding, especially of wet mashes that sour quickly.

Treatment.—Remove causes if any of the above, and give rabbit a small quantity daily of shorts for diarrhœa and bran for constipation, moistened with buttermilk if obtainable. A little boiled rice can be given at noon, and at night a limited amount of greenstuff can be fed. Flowers of sulphur, castor-oil, or dissolved Epsom salts may be given with the moistened shorts. One-half teaspoonful of one or the other thrice a week will be found about the right dose. If possible, the sick animal should be allowed more exercise if usually kept in a small hutch. It should be borne in mind, in fact, that where rabbits are kept in quarters other than hutches most of these ailments never appear, owing to the extra exercise they are able to take.

COLDS.

This disease is similar to roup and catarrhal colds in poultry. Experimentally, rabbits have been successfully inoculated with the germs of poultry-roup.

Treatment.—This is only recommended when specimens are only slightly affected and it is desired that they be kept for special reasons, such as good exhibition points or excellent breeding qualities. The matter should be wiped from eyes and nose and the cloth immediately burnt. Then thrust the nose of the rabbit into a solution made by mixing one Seilers' tablet in ½ pint of water. A medicine-dropper (or fountain-pen filler) should be used for dropping some of the solution in each eye. Remove the rabbit to well-lighted, clean, dry-littered hutch, and feed sparingly on nourishing feeds, such as bread and milk, good clover-hay, and a little greenstuff.

EAR-CANKER.

This disease is contagious and unless noticed quite early an attempt at curing should not be attempted. Occasional examination of all stock, young and old, is advised. This disease has been the means of putting many beginners out of business in this Province. Most of the failures were caused through lack of knowledge of the existence of disease until it had spread too far.

Treatment.—As soon as infection has taken place the diseased stock should be isolated. The ear should be sprayed with the Seilers' tablet solution, and then the affected parts anointed with carbolized vaseline. Some English authorities recommend powdering the spots with flowers of sulphur.

SKIN-DISEASES—MANGE, ECZEMA, SCURF, ETC.

These diseases are caused by unthriftiness, brought about by unsuitable food, quarters, and filth. Dispose of affected stock. It is unprofitable to have it around, whether as an advertisement or experiment.

SLOBBERS.

A watery discharge from the mouth, and undoubtedly due to intestinal trouble, probably of enteric nature. Treatment is, in the writer's opinion, wasted effort. If affected animal is mature it is certainly undesirable as a breeder, and if young, by immediate disposal, much trouble may be averted.

SNUFFLES.

Continual sneezing, with profuse catarrhal discharge, accompanied by heavy, asthmatic-like breathing, describes probably the worst disease, with the exception of coccidiosis (liver-disease), that attacks rabbits. Immediate killing and burning

of affected stock is advised. A thorough disinfection of quarters should follow. All litter from hutches should be burnt, and drinking-vessels thoroughly cleansed and disinfected. It is vastly preferable to kill and effectually dispose of, say $10 worth of stock than to try to cure same and perhaps get the whole rabbitry finally affected.

PARALYSIS.

In most cases the hind-quarters are affected and the animals are generally emaciated, showing malnutrition. The writer has recently examined quite a number of young stock suffering from this trouble. Post-mortem examinations have shown inflammation of the bowels, which undoubtedly proves it to be caused by gastric trouble. In other words, unsuitable feeding. Most of the cases are found to be amongst stock confined in hutches, pointing to lack of exercise as a contributing factor. Stock that is not possessed of a good vigorous constitution at birth will undoubtedly fall victims to this trouble quicker than healthier specimens.

WORMS.

These may be seen in the droppings, and the affected stock will usually be in an emaciated condition.

Treatment.—Starve for twelve hours and then give 5 drops of spirits of turpentine in ½ teaspoonful of olive-oil. About an hour afterwards give ½ teaspoonful of castor-oil and do not feed till morning. The rabbit should be held firmly and the spoon inserted at the side of the mouth between the teeth. Then give a wet mash; bread and milk is suitable. Watch the droppings for signs of the worms.

VENT INFLAMMATION.

The sexual organ of the doe oftentimes becomes enlarged and inflamed. This condition is due principally to feeding a ration that is overrich and of a heating nature, and is undoubtedly aggravated by not mating the affected animal when necessary. This disease is contagious. and the affected animal should not be mated until cured.

Treatment.—Give ½ teaspoonful of castor-oil, anoint the vent with carbolized vaseline or Seilers' tablet solution twice daily. Feed only a small quantity of hay and greenstuffs daily until cured.

COCCIDIOSIS ("GOING LIGHT" OR LIVER-TROUBLE).

This disease is undoubtedly allied with what is known as "black-head" in turkeys and common fowls. It appears more often amongst young stock. Affected ones are very thin, have ravenous appetites, and, as with turkeys, they generally die very suddenly. Post-mortem examination shows an enlarged liver, spotted here and there with cancerous spots, or coccidia. These spots are really dead tissues. All suspected stock should be killed and burnt, and if the hutches are not too valuable they should also be burnt. This disease is very prevalent amongst both wild and domesticated rabbits in Europe.

TUBERCULOSIS.

This disease has somewhat the same symptoms as coccidiosis, and the latter is often mistaken for it. Consumption amongst rabbits is generally brought on through bovine tubercle infection. Milk should be used from tested cows only. Treat as for coccidiosis.

In conclusion, it should be the aim of every breeder to prevent as far as possible all and any outbreaks of disease by making and keeping conditions so that it is impossible for outbreaks of any kind to get a footing. "An ounce of prevention is worth tons of cure."

It may be mentioned that a Provincial Rabbit-breeders' Association has recently been formed to further the interests of the industry. The writer is at present Assistant Secretary, and will be glad to supply information.

DIRECTORY OF PROVINCIAL RABBIT-BREEDERS.

This Directory has been compiled from list of members of the British Columbia Rabbit-breeders' Association. The Department cannot guarantee any stock purchased from breeders listed herein. Any grievance arising from transactions will, however, be taken up by the Executive Committee of the Provincial Breeders' Association, upon presentation. The initials F.S. and M.S. stand for Fancy Stock or Market Stock, as the case may be.

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